

IN THE CLAIMS

Please cancel claims 42-44 without prejudice.

Please amend claims 1-6, 10-15, 19-24, 28-30, 36-41,
and 45-47 as follows:

5 --1. (CURRENTLY AMENDED) A centrifugal separation system
comprising:

fluid delivery means ~~to~~ for providinge a cylindrical
vortex fluid flow;

a separation chamber ~~to~~ for containing separate
10 ~~unwanted material from~~ said fluid flow; and

a collector ~~to~~ for collecting said separated matter
material;

wherein said fluid flow centrifugally ejects said
matter therefrom into said separation chamber.

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2. (CURRENTLY AMENDED) A centrifugal separation system
according to claim 1 wherein said fluid delivery means
~~comprises~~ is powered by a motor.

20 3. (CURRENTLY AMENDED) A centrifugal separation system
according to claim 1 wherein said fluid delivery means
~~comprises~~ is powered by an electrical motor.

Sub-C1
4. (CURRENTLY AMENDED) A centrifugal separation system according to claim 1 wherein said fluid delivery means ~~comprises~~ is powered by a combustion motor powered by combustion.

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5. (CURRENTLY AMENDED) A centrifugal separation system according to claim 1 wherein said fluid delivery means is powered by a motor that is powered by compressed gas.

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6. (CURRENTLY AMENDED) A centrifugal separation system according to claim 1 wherein said fluid delivery means is powered by a motor that is powered by a flowing fluid.

15 7. (ORIGINAL) A centrifugal separation system according to claim 1 wherein said separation chamber is cylindrical.

8. (ORIGINAL) A centrifugal separation system according to claim 1 wherein said fluid delivery means comprises an impeller assembly.

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9. (ORIGINAL) A centrifugal separation system according to claim 1 wherein said fluid delivery means comprises a centrifugal pump.

Sub.C.1
10. (ORIGINAL) A centrifugal separation system according to claim 1 wherein said fluid delivery means comprises propellers.

5 10. (CURRENTLY AMENDED) A centrifugal separation system according to claim 1 wherein said fluid delivery means comprises at least one propellers.

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10 11. (CURRENTLY AMENDED) A centrifugal separation system according to claim 1, wherein said collector and said separation chamber are configured such that a the pressure is developed in said collector that is greater than the pressure in said separation chamber.

15 12. (CURRENTLY AMENDED) A centrifugal separation system according to claim 1, wherein said matter is selected from the group consisting of dust, that is capable of separating large objects, such as nails, screws, nuts, dirt, and sand, as well as small particles, such as dust and other
20 particulate matter.

Sub-C1
14.13. (CURRENTLY AMENDED) A centrifugal separation system
according to claim 1 further comprising an inner tube and
an outer tube, said inner tube and said outer tube being
coaxial and coupled to said separation chamber, wherein the
5 gap between said inner tube and said outer tube forms an
annular duct.

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cont.
15.14. (CURRENTLY AMENDED) A centrifugal separation system
comprising:

10 fluid delivery means for providing a fluid flow;
a separation chamber for separating matter from said
fluid flow;

a collector for collecting said separated matter;

~~A centrifugal separation system according to claim 1~~
15 ~~further comprising:~~

an inner tube and an outer tube, said inner tube and
outer tube forming an annular duct; and

flow straightening vanes provided within said annular
duct to straighten said fluid flow.

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Sub-C1
16 15. (CURRENTLY AMENDED) A centrifugal separation system
comprising:

fluid delivery means to providing a fluid flow;

5 a separation chamber for separating matter from said
fluid flow;

a collector for collecting said separated matter;

~~A centrifugal separation system according to claim 1~~
~~further comprising~~

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Cont.
10 an inner tube and an outer tube, said inner tube and
said outer tube forming an annular duct, said annular duct
and ending in a toroidal vortex nozzle.

17 16. (ORIGINAL) A centrifugal separation system according to
15 claim 1 wherein said collector is removable for emptying
the contents of said collector.

18 17. (ORIGINAL) A centrifugal separation system according to
claim 1 wherein said collector further comprises a door for
20 emptying the contents of said collector.

19 18. (ORIGINAL) A centrifugal separation system according to
claim 1 wherein said collector further comprises a
removable stopper for emptying said collector.

Sub-C1
20 19. (CURRENTLY AMENDED) A centrifugal separation system comprising:

fluid delivery means ~~to~~ for providing a fluid flow;

a separation chamber ~~to~~ for separating unwanted
5 ~~material~~ matter from said fluid flow; and

a collector ~~to~~ for collecting said matter unwanted
materials;

an opening in the wall of said ~~centrifugal~~ separation
chamber, said opening leading into said ~~dust~~ collector;

10 an outer tube coupled to said ~~centrifugal~~ separation
chamber; and

an inner tube located inside said outer tube, said
inner tube and said outer tube being coaxial, wherein the
gap between said inner tube and said outer tube forms an
15 annular duct.

21 20. (CURRENTLY AMENDED) A centrifugal separation system
according to claim 19 wherein said fluid delivery means
~~comprises~~ is powered by a motor.

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21. (CURRENTLY AMENDED) A centrifugal separation system
according to claim 19 wherein said fluid delivery means
~~comprises~~ is powered by an electrical motor.

Sub. C
22. (CURRENTLY AMENDED) A centrifugal separation system according to claim 19 wherein said fluid delivery means ~~comprises~~ is powered by a combustion motor powered by combustion.

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23. (CURRENTLY AMENDED) A centrifugal separation system according to claim 19 wherein said fluid delivery means is powered by a motor that is powered by a compressed gas.

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10 24. (CURRENTLY AMENDED) A centrifugal separation system according to claim 19 wherein said fluid delivery means is powered by a motor that is powered by a flowing fluid.

15 25. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said separation chamber is cylindrical.

26. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said fluid delivery means comprises an impeller assembly.

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27. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said fluid delivery means comprises a centrifugal pump.

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28. (CURRENTLY AMENDED) A centrifugal separation system according to claim 19, wherein said fluid delivery means comprises at least one propellers.

5 29. (CURRENTLY AMENDED) A centrifugal separation system according to claim 19, wherein said collector and said separation chamber are configured such that a the pressure is developed in said collector that is greater than the pressure in said separation chamber.

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30. (CURRENTLY AMENDED) A centrifugal separation system according to claim 19, wherein said matter is selected from the group consisting of dust, centrifugal separation system is capable of collecting large objects, such as nails, screws, nuts, dirt, and sand, as well as small particles, such as dust and other particulate matter.

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31. (ORIGINAL) A centrifugal separation system according to claim 19 further comprising:

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flow straightening vanes provided within said annular duct to straighten said fluid flow.

Sub-C 7 32. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said inner and outer tubes end in a toroidal vortex nozzle.

5 33. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said collector is removable for emptying the contents of said collector.

10 34. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said collector further comprises a door for emptying the contents of said collector.

Cont 15 35. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said collector further comprises a removable stopper for emptying said collector.

36. (CURRENTLY AMENDED) A method of centrifugally separating matter from a fluid comprising the steps of:
~~delivering a~~ providing a cylindrical vortex fluid flow
20 ~~to~~ within a separation chamber; and
~~allowing~~ centrifugally ejecting said matter ~~to carry~~
into a collector.

37. (CURRENTLY AMENDED) A method according to claim 36 wherein said fluid flow is delivered to said separation chamber via ~~from~~ an inner tube coupled thereto.

5 38. (CURRENTLY AMENDED) A method according to claim 36 wherein said fluid flow exits ~~from~~ said separation chamber via an annular duct created between an inner tube and an outer tube, ~~wherein said inner tube being for delivering said fluid flow to said separation chamber, and an outer tube,~~ and wherein said inner tube and said outer tube being are coaxial.

39. (CURRENTLY AMENDED) A method according to claim 36 further comprising the step of creating a higher pressure
15 in said collector than in said ~~centrifugal~~ separation chamber such that said cylindrical vortex ~~circular~~ fluid flow is maintained without impeding said matter from carrying into said collector.

Sub-C
40. (CURRENTLY AMENDED) A method according to claim 38, 36
wherein ~~said fluid flow exits from said centrifugal~~
~~separation chamber via an annular duct created between an~~
~~inner tube, said inner tube being for delivering said fluid~~
5 ~~flow, and an outer tube, said inner tube and said outer~~
~~tube being coaxial, wherein said annular duct straightens~~
said fluid flow.

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41. (CURRENTLY AMENDED) A method according to claim 38,
10 wherein 36 further comprising the step of providing
~~concentric inner and outer tubes for delivering and~~
~~expelling said fluid, said annular duct ending with a~~
toroidal vortex nozzle is located at the distal end of said
inner tube and said outer tube.

15 42. (CANCELLED)

43. (CANCELLED)

20 44. (CANCELLED)

Sub-C1
45. (CURRENTLY AMENDED) A method according to claim 36 wherein ~~said delivering is performed by~~ an impeller provides, wherein ~~said impeller performs the step of~~ creating a said cylindrical vortex fluid flow.

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46. (CURRENTLY AMENDED) A method according to claim 36 wherein ~~said delivering is performed by~~ at least one propeller provides, wherein ~~said propeller performs the~~ step of creating a said cylindrical vortex fluid flow.

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47. (CURRENTLY AMENDED) A method according to claim 36 wherein ~~said delivering is performed by~~ a centrifugal pump provides, wherein ~~said centrifugal pump performs the step~~ of creating a said cylindrical vortex fluid flow.--

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